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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,609	07/02/2007	Xavier Briand	20010.0008USWO	5232
52835 7590 03/10/2010 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER				
IQBAL, SYED TAHIA				
ART UNIT		PAPER NUMBER		
1793				
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03/10/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,609

Applicant(s)

BRIAND ET AL.

Examiner

SYED IQBAL

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 6-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Status of Claims

Claims 1-10 were previously rejected. Claims 6-22 are pending, among which 11-22 are new.

Claim Rejections - 35 USC § 112

Claims 6, 7, 9, 10, 13-16, 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 6, 7, 9, 13-16, 20-22 the recitation "effective amount" is considered indefinite since the amount is unclear and the function for which the amount is effective is also unclear.

Claims 19 and 20 recites the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim. The claims depend from claim 18 which is directed towards a product not a method.

Regarding claim 10, the recitation "the at least one of" is improper Markush language.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as obvious over Iqbal et al. "Studies on aqueous extracts of three green algae as an elicitor of plant defense mechanism" Pak. J. Bot, as discussed previously.

Claims 11-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iqbal et al. "Studies on aqueous extracts of three green algae as an elicitor of plant defense mechanism" Pak. J. Bot.

The reference teaches using plant elicitors from *Ulva lactuca* and teaches that the polysaccharides were derived from the algae by the steps including chopping, washing and extracting (Pg #194 Para 3). The reference also teaches drying (Pg # 194 Para 2 and 6), fractioning (Pg # 196 Para 1) and concentrating (Pg # 195 Para 1).

Regarding claims 11, 12, 18 and 19, a difference between the method disclosed by Iqbal and that recited by claims 11 and 12 is that the claims 11 and 12 require a distribution density of application to soil. Even though the reference teaches freezing the elicitor precipitate and administering an amount of liquid product for plant elicitor treatment, it does not teach the distribution density when applied as solid.

At the time of invention it would have been within the skill of one having an ordinary level of skill in the art to perform routine experimentation to determine a suitable or optimal amount of solid elicitor to use per hectare of soil without undue experimentation.

Regarding claim 20, the difference between the method of Iqbal and that recited in claim 20 is that claim 20 requires the fertilizer product in a granulated solid form.

At the time of invention it would have been obvious to one having an ordinary level of skill in the art to use any phase of the product since the chemical properties would be the same. Granulated form of fertilizer products are commonly used because of their ease of transport and application.

Regarding claims 13-16, 21 and 22, the difference between the method disclosed by Iqbal and that recited in these claims is that the reference does not teach elicitor treatment in plants or soil. The reference teaches using the elicitor applicant method of Whithead et al. (Iqbal Pg# 194 last Para). According to this method, the elicitor was applied to plant which had already been allowed to germinate (Whitehead Pg #157 Col 1 *Materials and methods* section).

In any event the reference teaches the reference teaches the high elicitor activity and sugar content of the *Ulva lactulus*. This would motivate one skilled in the art to use it on any plant or soil, where the present benefit may be desired, in a fashion which is commonly used in the art.

Regarding claim 17, the difference between the method disclosed by Iqbal and that recited in claim 17 is that claim 17 requires ulvans given to plants or soil in an amount of 1 g per liter.

At the time of invention it would have been obvious to one having an ordinary level of skill in the art to perform routine experimentation to determine a suitable or optimal amount of ulvans to use. Since the reference teaches the beneficial properties of ulvans one skilled in the art would be able to determine a suitable amount to use without undue experimentation.

Response to Arguments

Applicant's arguments filed 11/24/2009 have been fully considered but they are not persuasive. Regarding the Iqbal reference, applicants argue that the method taught by Iqbal is applied generally to *Codium elongatum* as well as *Caulepra texiflora* and

therefore does not suggest the presence of ulvans. However, these are only two examples of the algae samples studied by Iqbal. The reference further teaches the use of *Ulva Lactulus* and extracting polysaccharides from the algae (Pg #194 Para 1-3). Even though the reference specifically teaches extracting polysaccharides from *Ulva lactulus* the examiner further cites definition of "ulvans" from **OligoTech® catalogue**. According to the catalogue definition, ulvans are structural acid polysaccharides present in cell wall of green algae. Since the evidentiary reference teaches the definition of Ulvans as polysaccharides from green algae. The Iqbal reference therefore teaches ulvans in the extract of *Ulva Lactulus* since it teaches extracting polysaccharides from the green algae *ulva lactulus*.

Applicants further argue that Iqbal does not teach administering acid hydrolyzed extract of ulvans to plants. However, the reference teaches acid hydrolysis of HMWCEP (pg #194 Para 6), which includes the polysaccharides precipitate from extract as defined earlier (Pg#194 Para 4). Application to chick pea cotyledons is taught. However, the reference shows the elicitor activity of the green algae extracts and since the reference teaches the high elicitor activity and sugar content of the *Ulva lactulus*. This would motivate one skilled in the art to use it on any plant or soil in a fashion which is commonly used in the art.

Applicant argues that the reference does not teach that hydrolysates were used and that ulvans were hydrolyzed. However, hydrolyzed ulvans are not required by claim 6.

Applicant argues that the reference does not teach application of hydrolyzed ulvans to plants. The claims do not require a hydrolyzed ulvans. In any event, the reference teaches chromatography of hydrolyzed ulvans and reveals that these samples contain the highest amounts of Uronic acid, SO_4 and sugars (Table 2). The evidentiary reference teaches that the ulvans are polysaccharides (sugars) and are highly sulphated and include iduronic and glucuronic acid. This shows that the essential plant elicitors are still present in the hydrolyzed ulvans. This would motivate one skilled in the art use the hydrolyzed polysaccharides as plant elicitors. Ash content is also disclosed which can be considered as an additional fertilizing substance.

Applicants argue that reference fails to teach the presence of ulvans within the HMWCEP. However, the reference teaches that the HMWCEP is the precipitated polysaccharides of the seaweed extract (Pg #194 Para 4).

Regarding indefinite claims, the applicants argue that the examples in the specification provide experimental data which would establish the value of "effective amount". However, limitations from the specification cannot be read into the language of the claim and the claims do not provide what the effective amount is or what that amount is effective for.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED IQBAL whose telephone number is (571)270-5857. The examiner can normally be reached on Monday to Thursday 7:30am EST to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 5712721358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Langel/
Primary Examiner, Art Unit 1793

/S. I./
Examiner, Art Unit 1793